case, however, the forces which contribute to the formation of the field are conceived as radiating from the molecules, atoms, or electrons, or other ultimate constituents of the matter of the living being, the field being a synthetic product of the interplay of the many forces. But this form of field theory has this grave disadvantage—namely, that it is inapplicable to the morphogenetic problem of the mushroom, if it be true that the hyphae are all alike in material constitution.

Needham himself seems to be aware of the inadequacy of the various recent developments of physical chemistry on which he pins his hopes; and in the end falls back, like so many others, upon a vague suggestion of some kind of material preformation. He cites with approval the following dictum from Schleif: ' In every attempt at the explanation of polarity and symmetry in the egg, some as yet unknown property of the protoplasm has to be introduced, some " intimate structure " is present—that is, a morphological invisible specific property of the cytoplasm, the manner of working of which we do not yet understand.' He tells us that all the most reflective embryologists seem driven to the assumption of a ' cytoskeleton ' or spongioplasmic framework. And in order to make plausible the existence of such an elastic cytoplasmic framework within each cell, which can restore to its proper position each of its constituents after various deformations and displacements, he tells us that the distinction between the liquid and the solid or crystalline state is not, as until

recently was commonly held, a sharp one; rather there are liquid crystals and, in fact, at least three stages of aggregation of matter intermediate between the solid and the crystal. But a spongio-plasmic framework within the cell being